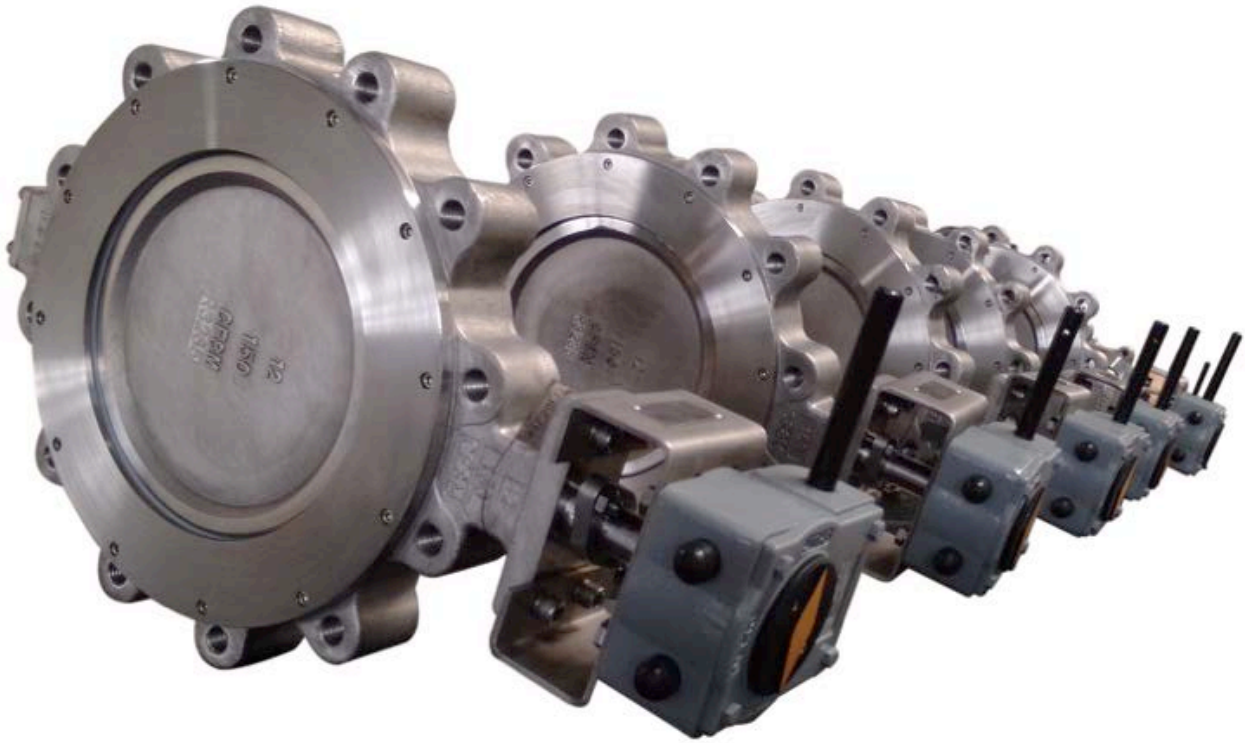
ROBVALVE

VALVE MANUFACTURER FOR INDUSTRIAL AND WATER APPLICATIONS



BUTTERFLY VALVES

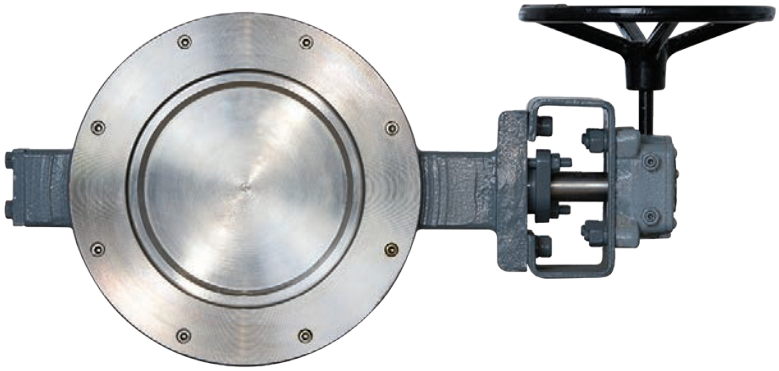
HIGH PERFORMANCE

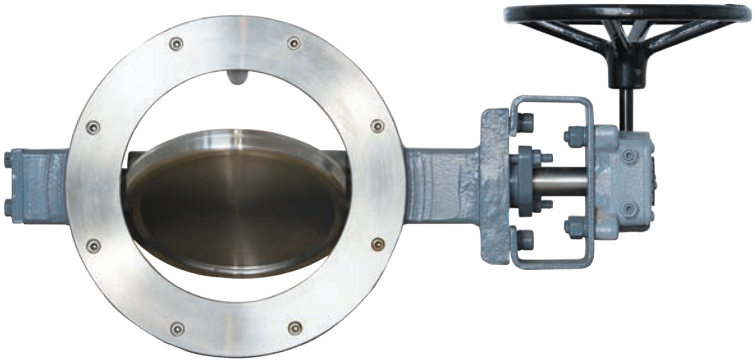
Pressure : PN10 ~ PN40 / Class 150 ~ 300 | **Size :** Basic Type : 2" ~ 48" (50mm ~ 1200mm)

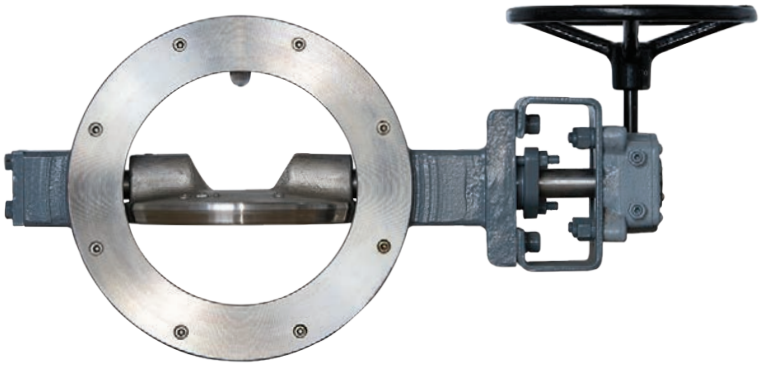
Fire Safety Type : 2" ~ 60" (50 ~1500mm) | **Temperature :** -196°C ~ +650°C

CODIFICATION

Valve Definition			Connection Type	Working Pressure	Size	Eventual Options
Valve Type		Service				
BUV2 High Performance Butterfly Valve	**1** - Basic Type	**1** - Standard Temperature	**WA** - Wafer	**C01** - CL150 **016** - PN16 **025** - PN25	**02** - 2"	Body Material
		1 - Standard Temperature	**LU** - Lug	**C03** - CL300 **040** - PN40	**12** - 12"	Inside Parts Material
						Actuation



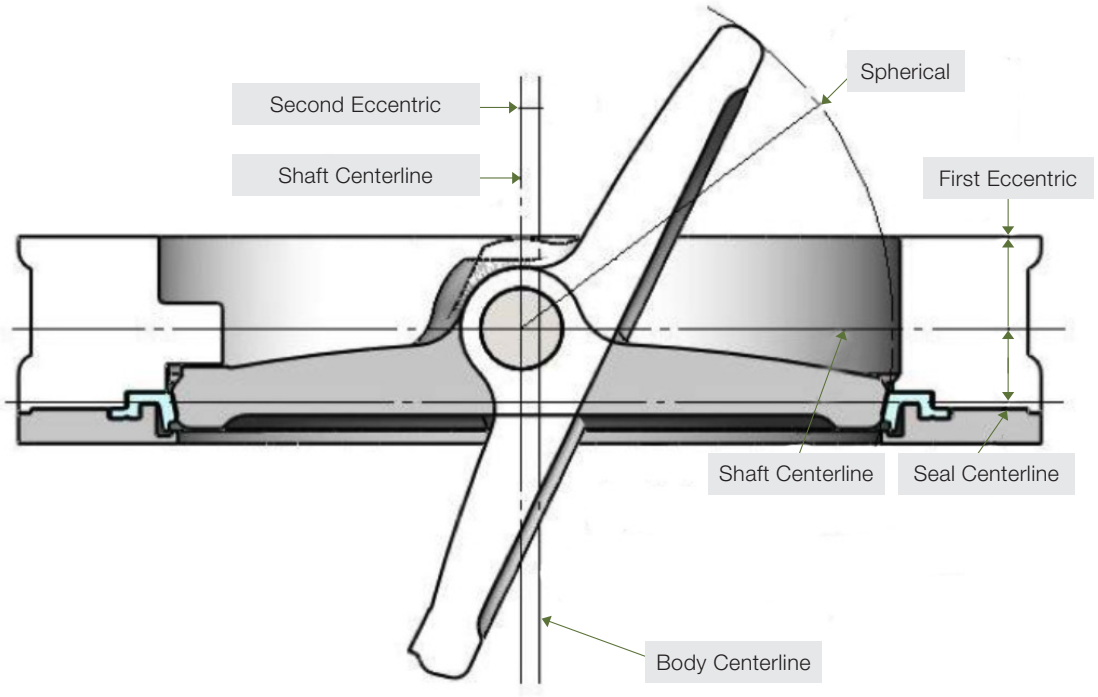




CONTENTS

OVERVIEW

Double eccentric structure design is adopted on the high performance butterfly valve. In the design, the spindle offsets the center of the seal face to form the first eccentric and the spindle offsets from the center line of the pipeline to form the second eccentric. The combination of two eccentric will generate cam effect as the disc screw in or out, making it possible to separate the disc from seat by very small torque. There is almost no friction between the disc and seat during switches, and that will lower the operation torque and extend service life. With these advantages, high performance butterfly valve can be used for various kinds of working conditions and medium.



Basic Parameters

Size Range : BUV21
Basic Type : Connections PN10, PN16 or PN 25 or Class 150 - 2” ~ 48” (50mm ~ 1200mm)
Connections PN40 or Class 300 - 2” ~ 24” (50mm ~ 600mm)
BUV22 Fire Safety Type : Connections PN 10, PN 16 or PN 25 or Class 150 - 2” ~ 60” (50mm ~ 1500mm)
Connections PN 40 or Class 300 - 2”~ 60” (50mm ~ 1500mm)
Connection Type : wafer, lug
Working Temperature : -196 ˚C ~ 650 ˚C (-321°F ~ 1202°F)
Drive Type : manual, worm gear, pneumatic, electric
Applicable Medium : corrosive chemical media, water, gas, acid, alkali, steam, pharmaceutical.
For other fluids, please contact us.

Applications

High performance butterfly valve is mainly used in the following industries :

- Industrial facilities, machinery, natural gas
- High temperature water, condensate water
- Chemical medicine, food production
- Paper industry, shipbuilding, power plant, automation equipment
- Household water, sea water desalination

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Using for Special Working Conditions

For fire protection conditions
With the fire protection design, the valve can meet the special requirements of this working condition. Its superior performance can effectively avoid potential fire safety hazards in petroleum and petrochemical industries.

For high temperature condition
High Temperature Fire Protection Type High Performance Butterfly Valve can work normally at high temperature up to +1500°F (+815 ˚C). So this product is widely used in oil/ gas processing, power industry, steam/ hot gas related industry, chemical industry, etc.

For liquefied natural gas industry (LNG)
Natural gas shall be stored and transported in liquid in LNG industry, and our products can meet cryogenic requirements by using Low Temperature Fire Protection Type High Performance Butterfly Valve.

For acid gas
The valve used in such severe condition need full preparation, choosing the right structure and the materials. And all these should be conform to the NACE standard.

For steam industry
The valve is suitable for high temperature and high pressure water, condensate water, cooling water, etc. To these medium, we recommend the RPTFE seat.

For abrasive condition
The valve materials need to be chosen very carefully to meet the strict standard of abrasive condition. For example, when the valve is in sodium hydroxide or Potassium hydroxide, we would recommend to use stainless steel.

For chlorine medium
High performance butterfly valve from Robvalve can control liquid or gaseous chlorine medium reliably in the pipelines, and the unique seat design ensures no leakage. The valve is suitable for conveying chlorine media containing water by using special materials. With special cleaning, the valve can be protected from reaction with chlorine or other substances.

For oxygen industry
All the parts are processed specially (cleaned, assembled, tested and packaged) to ensure the burrs, sharp edges, dirt, grease and other contaminants have been removed, avoid the internal risk caused by the reaction between oxygen and grease or other impurities.

For anti-sulfur conditions
The valve is reliable and safe, conforming to the NACE MR0103 standard. The metal materials must have the resistance to sulfide stress cracking to work this condition, such as in petroleum and natural gas industry.

Note : For other special conditions and requirements, please contact us.

BUV21 BASIC TYPE

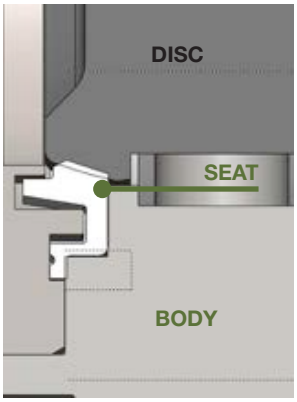
Design Standards

Design and Manufacturing Standard : API 609, MSS SP-68, BS EN 593
Temperature & Pressure Class Standard : ASME B16.34
Fire Resistance Standard : API 607, BS EN ISO 10497
Driving Flange Standard : BS EN ISO 5211
Connection Flange Standard : ASME B16.5, ASME B16.47, ISO 7005, EN 1092
Face to Face Standard : API 609, MSS SP-68, ISO 5752, BS EN 558
Inspection & Testing Standard : API 598, MSS SP-61, ISO 5208
Valve Marking Standard : MSS SP-25

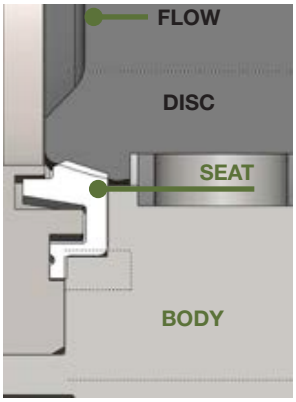
Design Features

Unique Seat Design

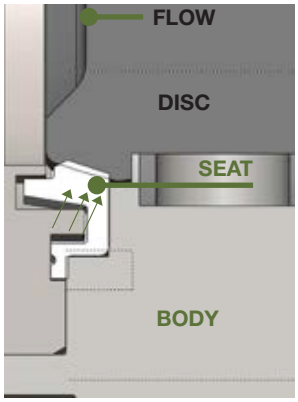
- Optimized lip-type seat can automatically compensate for temperature and pressure variations, it has self-regulating capacity, and its sealing performance is safe and reliable
- The users can replace the seat just by taking down the segment on site, without dismantling the valve plate and shaft, which can reduce the maintenance cost and extend the service life
- Bidirectional bubble-free, zero leakage sealing



The seat is slightly deformed as the valve closed. And this deformation inspired seat to maintain a lasting sealing with the edges of disc.



The disc is pushed to the seat as the pressure applied to the non-pressure side of the ring. And it will be more and more tightly closed as the disc is close to the spherical seat. The contact between the lip edge and bottom groove of pressing ring can limit excessive movement of the seat.



The pressure is transferred to the underneath of lip edge when the pressure comes to the pressing ring side, and this can further increase the sealing force between disc and seat.

Blowout proof structure : There is a split collar under the end of shaft to maintain the stem positioning and prevent the shaft blown out due to the breakage of connection pin.

Optimized disc design : The spherical design of the disc can ensure the disc intensity, provide maximum medium flow, increase the flow capacity and Cv value.

Convenient packing adjustment design : It can complete the adjustment and packing replacement without removing the drive device. Packing gland is made of two parts to avoid shaft jamming caused by offset.

Terminal services : Both the ends of lug type high performance butterfly valve can be used to the pipeline terminals under the working temperature& pressure, and achieve bi-directional sealing under the rated pressure.

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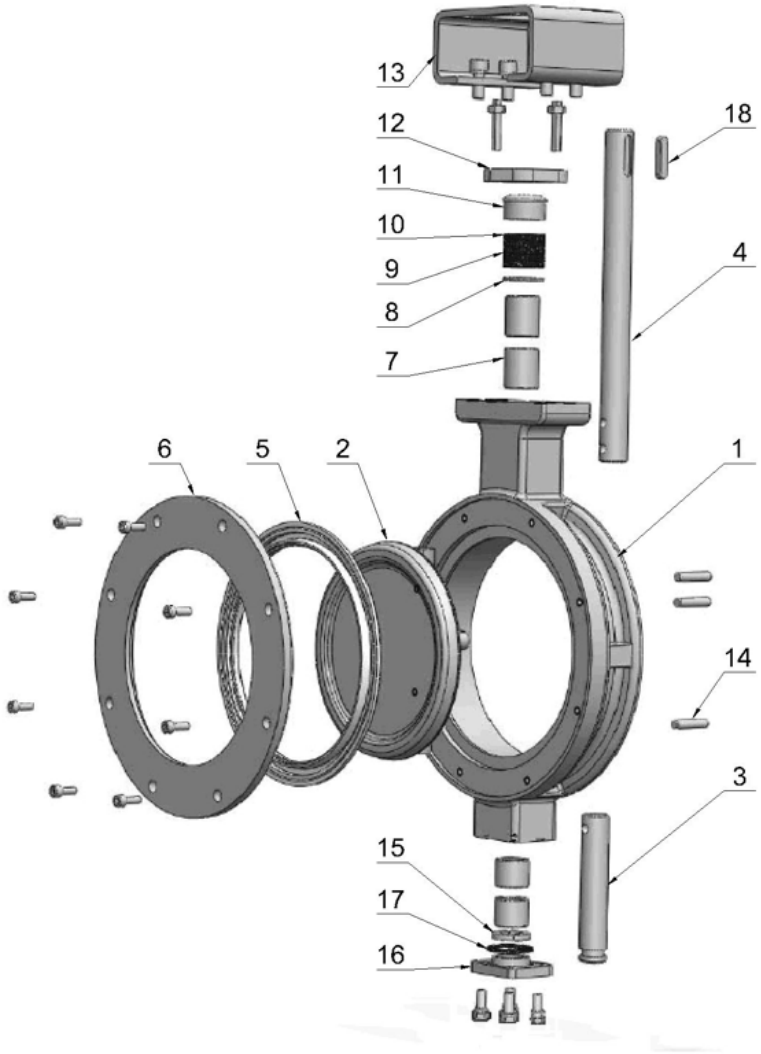
Valve Structure



BUV21 BASIC TYPE

Parts Materials List*

NO.	Name	Carbon Steel Body	Stainless Steel Body
		Parts Materials	Parts Materials
1	Body	ASTM A216 WCB	ASTM A351 CF8M
2	Disc	ASTM A351 CF8M	ASTM A351 CF8M
3	Shaft	17-4PH	17-4PH
4	Seat	See the Table of Seat Materials below	
5	Seat gland	ASTM A276 316	ASTM A276 316
6	Bushing	ASTM A276 316/ ASTM A276 316+ENP	ASTM A276 316/ ASTM A276 316+ENP
7	Packing Washer	ASTM A276 304	ASTM A276 316
8	Packing	See the below Table of Packing Materials below	
9	Braided Packing	See the Table of Braided Packing Materials below	
10	Packing Bushing	ASTM A276 304	ASTM A276 316
11	Packing Gland	ASTM A216 WCB	ASTM A351 CF8M
12	Yoke	A105	ASTM A276 304
13	Cylindrical Pin	17-4PH	17-4PH
14	Split Collar	ASTM A276 304	ASTM A276 316
15	Bottom Cover	ASTM A216 WCB	ASTM A351 CF8M
16	Bottom Cover Sealing Ring	Flexible Graphite	Flexible Graphite
17	Key	ASTM A276 420	
18	Bolt, Screw, Stud	ASTM A193 B7/ASTM A193 B8/ASTM A193 B8M	
19	Nut	ASTM A194 2H/ASTM A194 8/ASTM A194 8M	

Parts	Optional materials
Seat	PTFE/RPTFE/ UHMWPE
Packing	Flexible Graphite /PTFE/RPTFE
Braided Packing	Braided Flexible Graphite /PTFE/RPTFE

Note : We only list some common materials in the list and we can provide other special materials according to customers' requirement for special working conditions.

Robvalve has the right to modify the content without notice.

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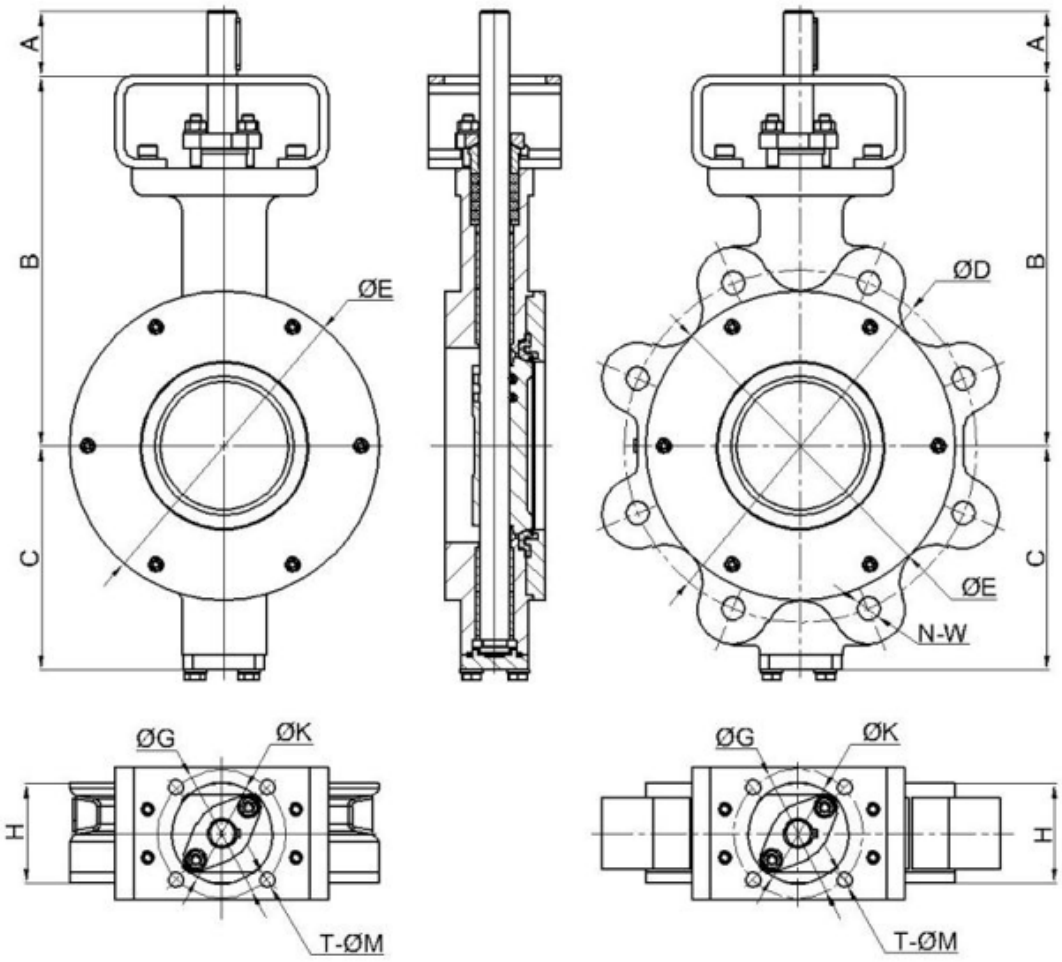
Main Structure

2" ~ 4" - Wafer and Lug Type - 25 Bars



Face to Face Standard : API 609;
Flanges Drilling Standard : Connections PN10 or PN16 or PN25 or Class 150

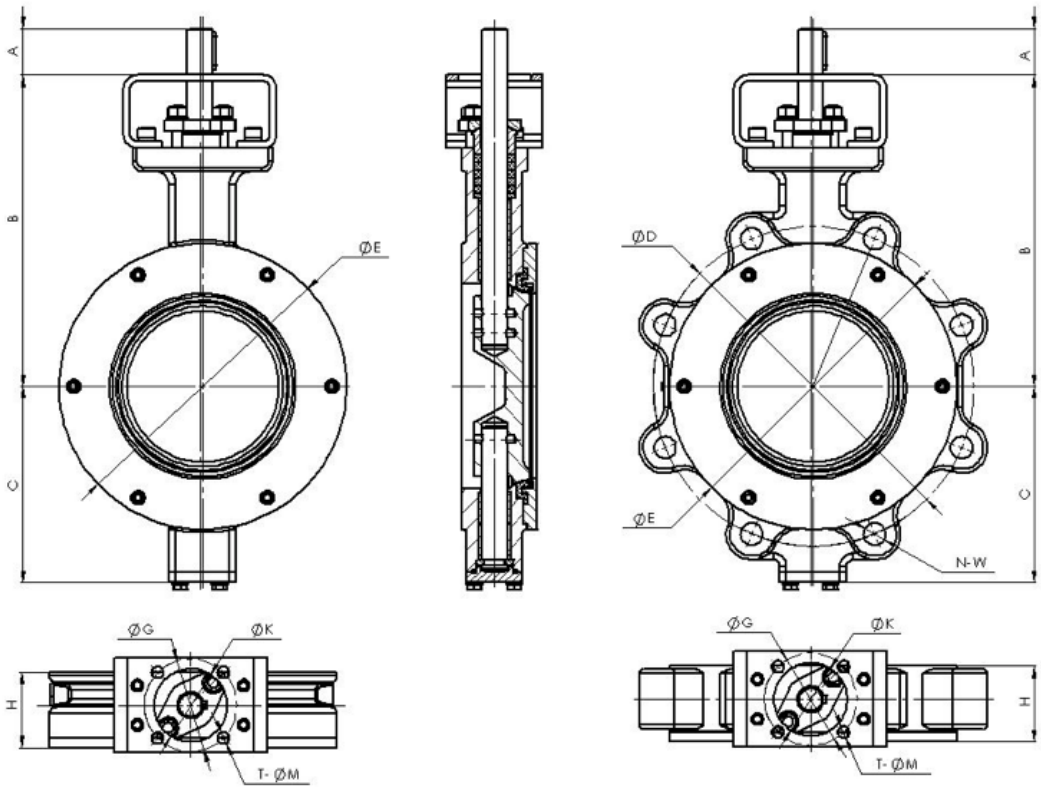
Size		Flange size	Dimensions (mm)											Weight* (Kg)	
DN	inch		A	B	C	E	G	K	T-ØM	H	D	N	W	Wafer	Lug
50	2	F05	30	157	85	98	50	35	4-Ø7	43	120.7	4	5/8-11UNC	3.4	4.3
65	2.5	F05	30	172	97	117	50	35	4-Ø7	47	139.7	4	5/8-11UNC	4.5	6.1
80	3	F05	30	187	109	128	50	35	4-Ø7	48	152.4	4	5/8-11UNC	5.4	6.8
100	4	F07	35	200	121	167	70	55	4-Ø9	54	190.5	8	5/8-11UNC	8.2	11.5

Operating gear : If the customers have asked for specified operation gear, Robvalve can carry out in accordance with the customers' designated assembly. If there are no special requirements, we will choose Robvalve's device by default.

BUV21 BASIC TYPE

Main Structure

5" ~ 12" - Wafer and Lug Type - 25 Bars



Face to Face Standard : API 609;
Flanges Drilling Standard : Connections PN10 or PN16 or PN25 or Class 150

Size		Flange size	Dimension (mm)											Weight*(Kg)	
DN	inch		A	B	C	E	G	K	T-ØM	H	D	N	W	Wafer	Lug
125	5	F07	35	218	135	190	70	55	4-Ø9	57	215.9	8	3/4-10UNC	10.5	14.6
150	6	F07	35	235	148	216	70	55	4-Ø9	57	241.3	8	3/4-10UNC	13	17
200	8	F10	45	283	179	272	102	70	4-Ø11	64	298.5	8	3/4-10UNC	22	28.5
250	10	F12	55	328	212	332	125	85	4-Ø13	71	362	12	7/8-9UNC	33.8	44.7
300	12	F12	55	377	255	400	125	85	4-Ø13	81	431.8	12	7/8-9UNC	53.6	71.7

Operating gear : If the customers have asked for specified operation gear, Robvalve can carry out in accordance with the customers' designated assembly. If there are no special requirements, we will choose Robvalve's device by default.

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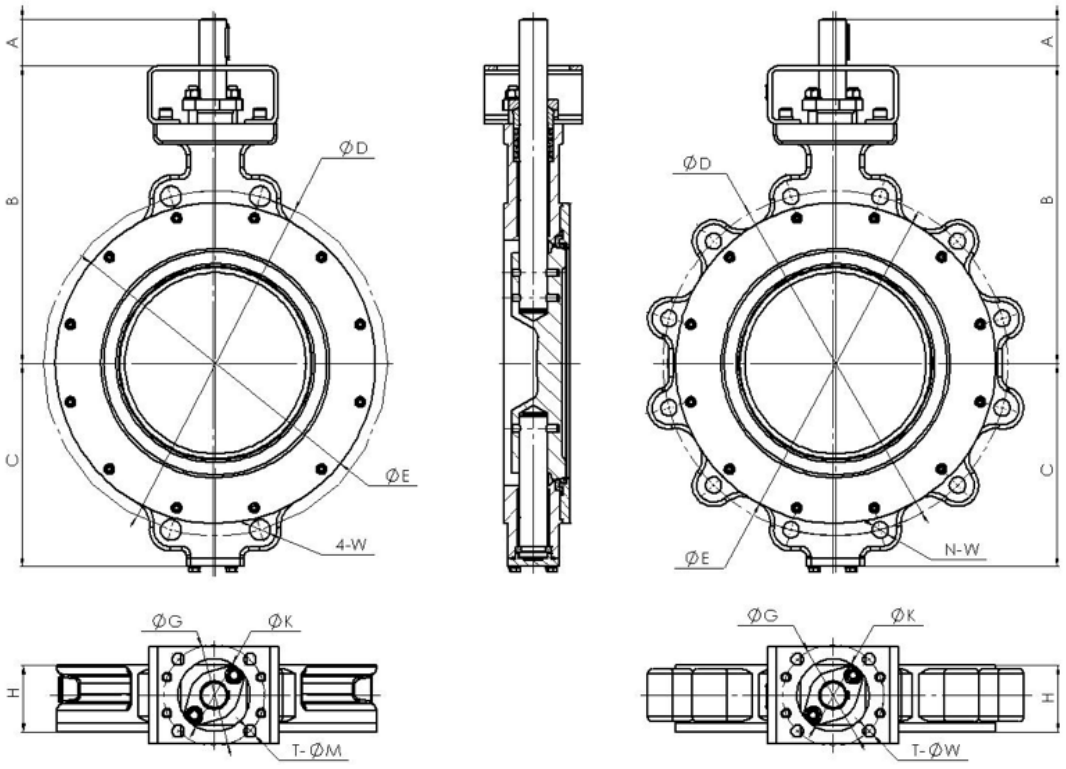
Main Structure

14″ ~ 30″ - Wafer and Lug Type - 25 Bars



Face to Face Standard : API 609;
Flange Drilling Standard : Connections PN10 or PN16 or PN25 or Class 150

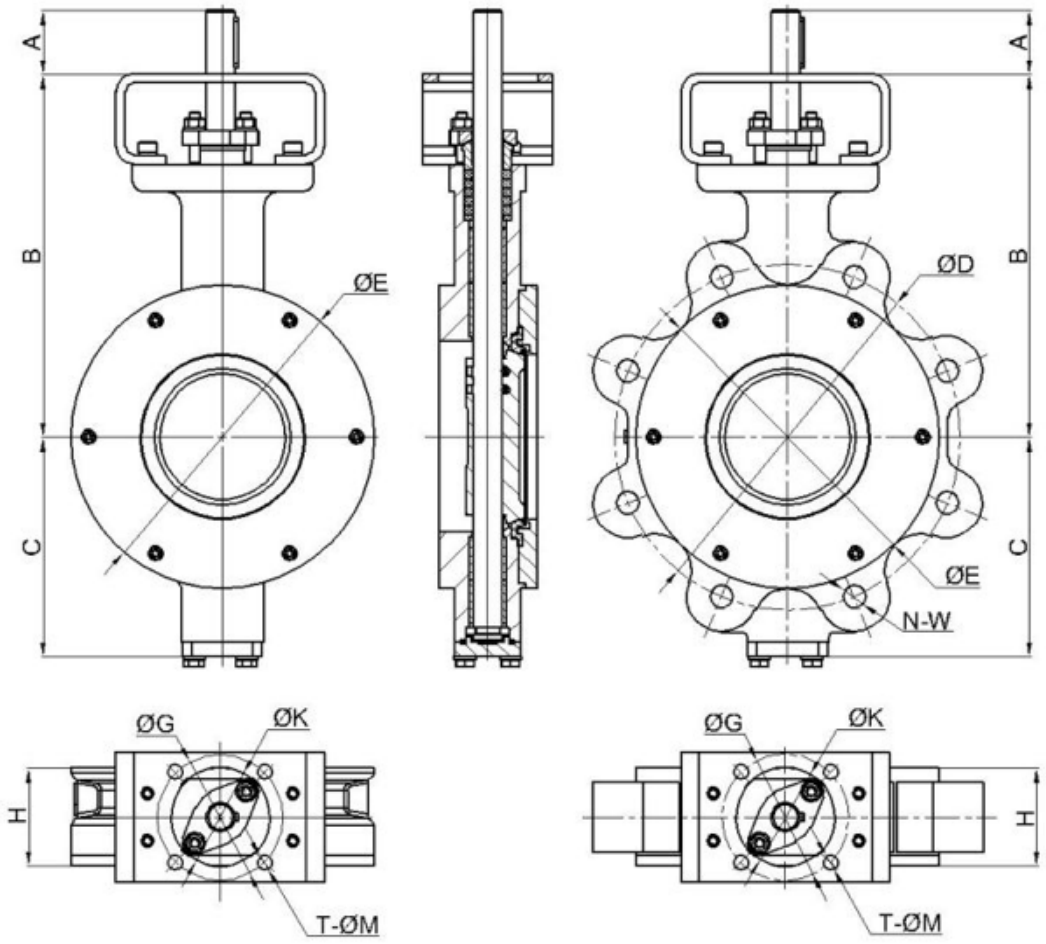
Size		Flange size	Dimension (mm)											Weight*(Kg)	
DN	inch		A	B	C	E	G	K	T-ØM	H	D	N	W	Wafer	Lug
350	14	F14	65	410	281	442	140	100	4-Ø17	92	476.3	12	1-8UNC	80	97
400	16	F16	80	462	315	504	165	130	4-Ø22	102	539.8	16	1-8UNC	110	136
450	18	F16	80	490	338	540	165	130	4-Ø22	114	577.9	16	11/8-8UN	135	163
500	20	F16	80	526	376	597	165	130	4-Ø22	127	635	20	11/8-8UN	176	217
600	24	F25	110	610	430	708	254	200	8-Ø18	154	749.3	20	11/4-8UN	282	346
750	30	F25	110	790	530	865	254	200	8-Ø18	191	914.4	28	11/4-8UN	527	662

Operating gear : If the customers have asked for specified operation gear, Robvalve can carry out in accordance with the customers' designated assembly. If there are no special requirements, we will choose Robvalve's device by default.

BUV21 BASIC TYPE

Main Structure

2" ~ 4" - Wafer and Lug Type - 50 Bars



Face to Face Standard : API 609;
Flange Drilling Standard : Connections PN40 or Class 300

Size		Flange type	Dimensions (mm)											Weight* (Kg)	
DN	inch		A	B	C	E	G	K	T-ØM	H	D	N	W	Wafer	Lug
50	2	F05	30	157	85	98	50	35	4-Ø7	43	127	8	5/8-11UNC	3.4	5.3
65	2.5	F05	30	172	97	117	50	35	4-Ø7	47	149.2	8	3/4-10UNC	4.5	7.4
80	3	F05	30	187	109	128	50	35	4-Ø7	48	168.3	8	3/4-10UNC	5.4	9.3
100	4	F07	35	200	121	167	70	55	4-Ø9	54	200	8	3/4-10UNC	8.2	13.8

Operating gear : If the customers have asked for specified operation gear, Robvalve can carry out in accordance with the customers' designated assembly. If there are no special requirements, we will choose Robvalve's device by default.

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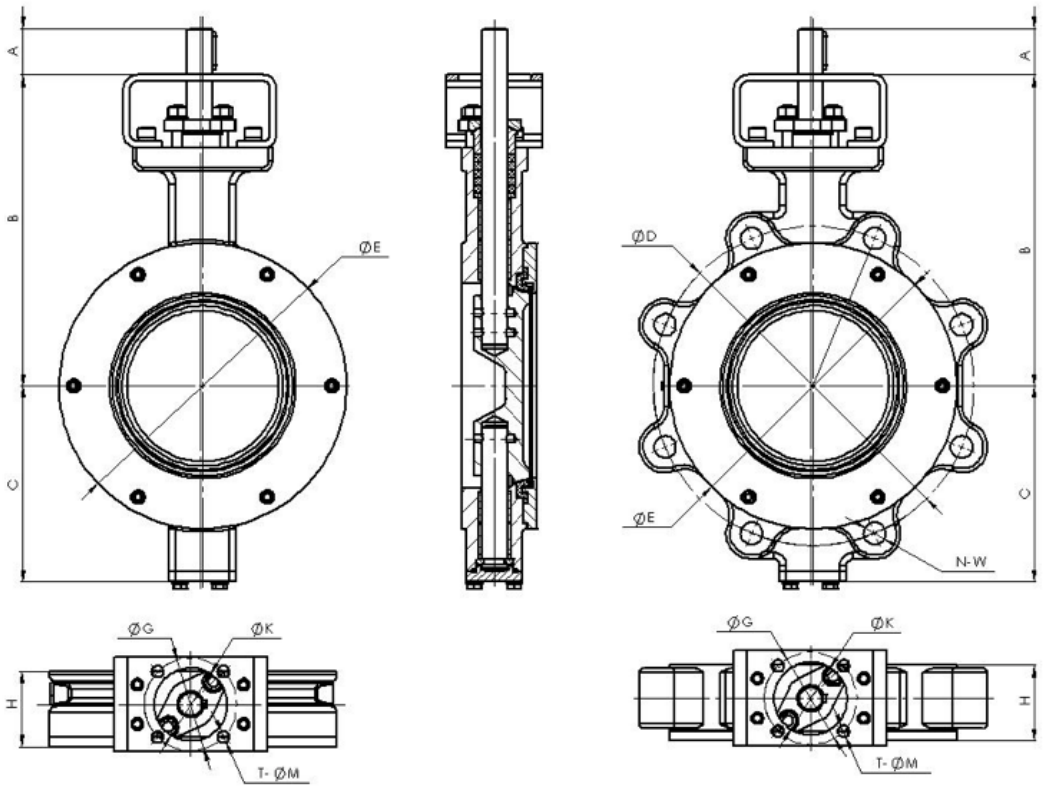
Main Structure

5″ ~ 8″ - Wafer and Lug Type - 50 Bars



Face to Face Standard : API 609;
Flange Drilling Standard : Connections PN40 or Class 300

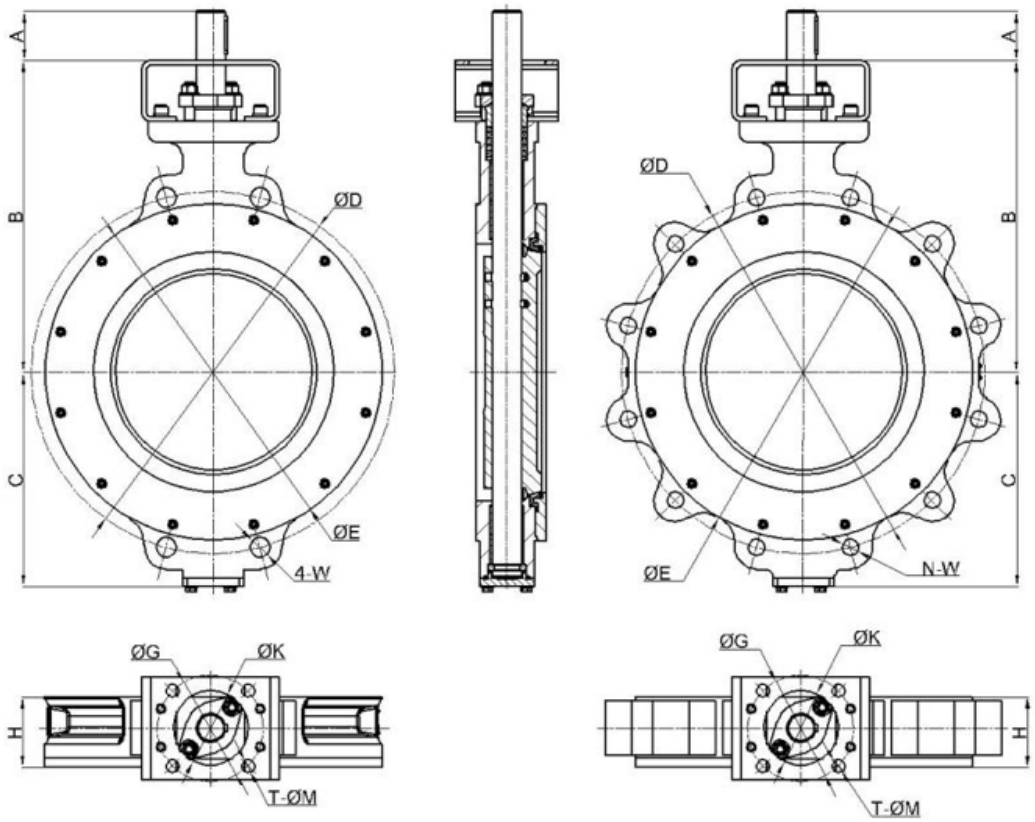
Size		Flange type	Dimensions (mm)											Weight*(Kg)	
DN	inch		A	B	C	E	G	K	T-ØM	H	D	N	W	Wafer	Lug
125	5	F07	35	231	146	190	70	55	4-Ø9	59	235	8	3/4-10UNC	13.4	18.2
150	6	F07	35	260	170	216	70	55	4-Ø9	59	269.9	12	3/4-10UNC	17.2	25
200	8	F10	45	298	189	272	102	75	4-Ø11	73	330.2	12	7/8-9UNC	27	34

Operating gear : If the customers have asked for specified operation gear, Robvalve can carry out in accordance with the customers' designated assembly. If there are no special requirements, we will choose Robvalve's device by default.

BUV21 BASIC TYPE

Main Structure

10" ~ 24" - Wafer and Lug Type - 50 Bars



Face to Face Standard : API 609;
Flange Drilling Standard : Connections PN40 or Class 300

Size		Flange type	Dimensions (mm)											Weight*(Kg)	
DN	inch		A	B	C	E	G	K	T-ØM	H	D	N	W	Wafer	Lug
250	10	F12	55	355	237	332	125	85	4-Ø13	83	387.4	16	1-8UNC	51	71
300	12	F12	65	395	275	400	125	85	4-Ø13	92	450.8	16	11/8-8UN	78	107
350	14	F16	80	435	306	442	165	130	4-Ø22	117	514.4	20	11/8-8UN	116	180
400	16	F16	80	487	340	504	165	130	4-Ø22	133	571.5	20	11/4-8UN	158	236
450	18	F25	80	525	375	540	254	200	8-Ø18	149	628.6	24	11/4-8UN	215	327
500	20	F25	110	565	405	597	254	200	8-Ø18	159	685.8	24	11/4-8UN	265	426
600	24	F25	110	660	480	708	254	200	8-Ø18	181	812.8	24	11/2-8UN	423	654

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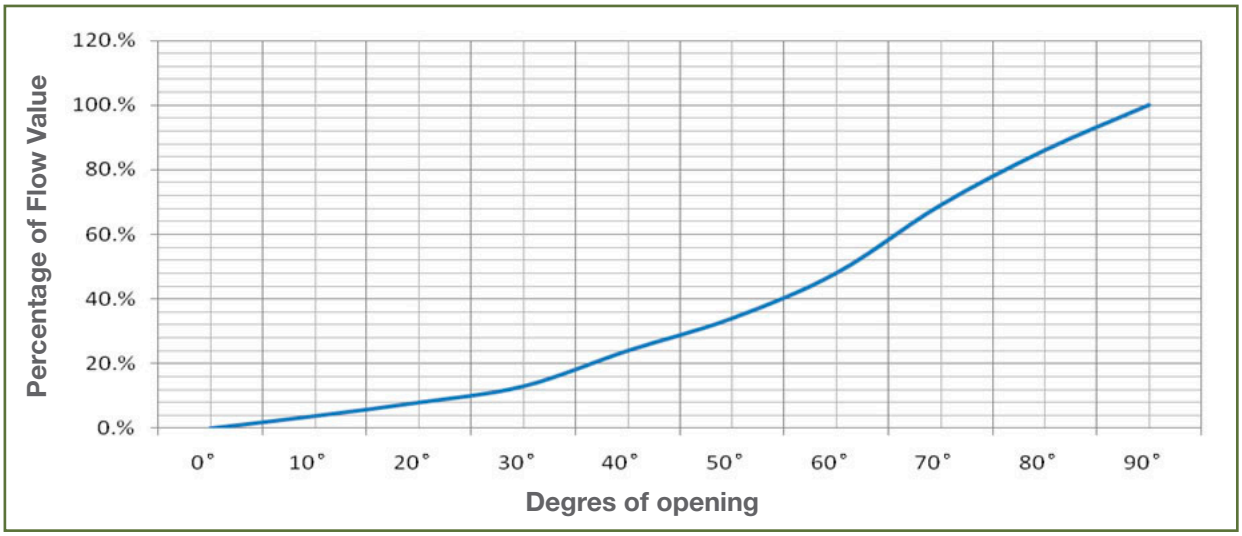
BUV21 Basic Type Flow Parameters

The following chart shows all the flow coefficient of BUV21 butterfly valves. CV value indicates the water flow through full opened valve per minute under the conditions that differential pressure is 1 pound per square inch (0.07bar), temperature is 60°F (15.6°C). Its unit is gallons per minute.

Valve Size		Classe 150		Classe 300	
DN	inch	Cv	Kv	Cv	Kv
50	2	80	70	80	70
65	2.5	85	75	85	75
80	3	175	150	175	150
100	4	420	360	420	360
125	5	690	590	690	590
150	6	1150	990	1150	990
200	8	2310	1980	1900	1650
250	10	3470	2970	3310	2850
300	12	5360	4600	5000	4280
350	14	6100	5230	5500	4750
400	16	8400	7200	7300	6300
450	18	11100	9500	9800	8400
500	20	14700	12600	12000	10300
600	24	22700	19500	19500	16700



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